

Abstract No. Cleg0365

A Possible Ferroelectric Transition in (TMTTF)₂AsF₆

P.S. Clegg (U.Toronto), B. Khaykovich (MIT)

Beamline(s): X20A

The (TMTTF)₂X salts are a series of quasi one-dimensional organic conductors which exhibit a variety of ordered phases. A dielectric anomaly has been observed for various anions (X) and it has been suggested that there is a ferroelectric transition taking place. We have carried out an X-ray diffraction experiment for (TMTTF)₂AsF₆ either side of the temperature at which the dielectric anomaly occurs (T=100K). A few Bragg peaks were measured and the changes in intensity were consistent with a movement of the AsF₆ anion at around the anticipated temperature. However, the peak intensities exhibit unusual temperature dependence below the "transition". These experiments are complicated by the fact that the material is sensitive to x-ray damage and can crack under thermal stress. Further experiments are planned to clarify the situation.